



# TNRCC REGULATORY GUIDANCE

Municipal Solid Waste Division

RG-94 (Revised)

September 1996

## SUBJECT: Polychlorinated Biphenyl (PCB) Wastes: Disposal and Recycling

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## Introduction

The Texas Natural Resource Conservation Commission (TNRCC) frequently receives inquiries from the regulated community about regulations that apply to PCB wastes. This guideline, written in response to these inquiries, is intended to support and assist the regulated community in understanding both federal and state regulations that apply to PCB wastes. The guideline is not intended to replace any federal or state regulations that apply to PCB wastes.

## PCBs and Their Uses

PCBs belong to a broad family of organic chemicals known as chlorinated hydrocarbons. Manufactured under a variety of trade names including Arochlor, Aroclor, Chlorodiphenyl, and Phenocloro, PCBs found a wide variety of uses, including ingredients in the manufacture of heat transfer fluids, hydraulic fluids, dyes, carbonless copy paper, paints, adhesives, caulking compounds, and sealants.

However, because of their high degree of chemical stability, high boiling point stability, low solubility in water, low flammability, and low electrical conductivity, PCBs found their widest use as cooling and dielectric fluids in electrical transformers, light ballasts, and electrical capacitors. It is estimated that between 1929, when commercial production of PCBs began, and 1979, when, for all practical purposes, commercial PCB production ceased, over a billion pounds of PCB oil were generated.

## The Dangers of PCBs

Beginning in the late 1960s, experts accumulated evidence suggesting that PCBs pose a significant threat to human health and the environment. By the late 1970s, evidence from a large number of scientific studies showed that PCBs:

- ◆ Are potential human carcinogens.
- ◆ Have harmful effects on various organs, particularly the skin, kidneys, and lungs. More recent evidence suggests that PCBs may have harmful effects on the human reproductive and immune systems.
- ◆ Do not readily break down because of their stability and are therefore persistent in the environment.
- ◆ Are taken up and stored in the fatty tissue of many organisms (including humans) with the concentration increasing with time, even though the exposure levels to PCBs may be very low. This phenomenon is called “bioaccumulation.”
- ◆ Build up in the fatty tissue of animals (including humans) as living organisms containing PCBs are eaten by organisms higher up the food chain in a process called “biomagnification.”

In response to the growing body of evidence that PCBs pose a significant threat to human health and the environment, the Environmental Protection Agency (EPA) issued a ban against the further production of PCBs. As a result of this ban, PCBs were last manufactured in the United States on an industrial scale in 1979.

## Federal and State Regulations That Apply to PCB Wastes

### Federal Regulations: Toxic Substances Control Act (TSCA)

The EPA regulates PCBs through five statutes, the most comprehensive of which is the Toxic Substances Control Act (TSCA) of 1976. The regulations resulting from TSCA are codified in 40 Code of Federal Regulations (CFR) Part 761. These regulations govern the use, marking, storage, recording, and disposal of PCBs and PCB wastes. These regulations:

- ◆ prohibit the manufacture of PCBs, unless the manufacture is specifically exempted by the EPA;
- ◆ prohibit the processing, distribution, and use of PCBs, except in a totally enclosed manner; and
- ◆ require that all wastes containing 50 parts per million (ppm) or greater PCB content must be disposed of at a TSCA-approved disposal facility.

Copies of 40 CFR Part 761 can be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 (202) 783-3238

Further information about TSCA and other federal regulations that apply to PCBs can be obtained from the TSCA Hotline at (202) 554-1404 or from the TSCA Program of the Texas Department of Health at (512) 834-6600.

## State Regulations

In addition to the federal regulations governing PCB wastes, Texas also has regulations governing such wastes. Depending upon their source and their hazardous waste status, PCB wastes generated in Texas are subject to regulation by either the Railroad Commission of Texas (RRC) or the TNRCC.

### PCB Wastes Generated at Sites Regulated by the RRC

Nonhazardous wastes generated at sites directly associated with the production, processing, and transportation of crude oil, natural gas, or geothermal resources are under the jurisdiction of the RRC and are regulated by its rules. More information about RRC regulations governing PCB wastes may be obtained from the Environmental Services Section of the Oil and Gas Division of the RRC at (512) 463-6810.

### Wastes Regulated by the TNRCC

***Regulations Applying to PCB Wastes That Are Hazardous Wastes or Are Produced by Industrial Generators.*** The TNRCC has jurisdiction over all hazardous wastes and wastes produced by generators of “industrial solid waste” (which is defined in 30 Texas Administrative Code (TAC) Section 335.1 (Definitions) as, “. . . waste resulting from or incidental to any process of industry or manufacturing, or mining or agricultural operation, which may include hazardous waste . . .”). TNRCC regulations that apply to both hazardous and industrial wastes are found in 30 TAC Chapter 335.

At present, PCBs are not themselves defined as hazardous wastes. Wastes containing PCBs can be a hazardous waste only if they (1) are mixed with a listed hazardous waste or are derived from a listed hazardous waste (in which case the resulting mixture is a listed hazardous waste); or (2) exhibit one or more characteristics of a hazardous waste.

When disposing of PCB wastes that are hazardous or industrial Class 1 wastes, the following minimum requirements apply:

- ◆ Section 335.4 (General Prohibitions);
- ◆ Section 335.6 (Notification Requirements); and
- ◆ Sections 335.9-15 (Relating to Record Keeping, Reporting, and Shipping Requirements).

Regardless of source, TSCA requires wastes containing 50 ppm or greater PCBs to be disposed of at a site approved by the EPA for the disposal of PCB wastes. Disposal of hazardous PCB wastes is allowed only at sites permitted to dispose of both hazardous wastes and wastes containing PCBs.

For more information about sites in Texas that are permitted to dispose of PCB wastes that are also hazardous waste, contact the Permits Section of the Industrial and Hazardous Waste Division, TNRCC, at (512) 239-6595. The EPA has provided a list of authorized PCB disposal companies (see Appendix I)

When disposing of nonhazardous industrial wastes that (1) contain less than 50 ppm PCBs, (2) have not been contaminated with a waste that itself contained 50 ppm PCBs, and (3) meet the definition of a Class 2 waste in all other respects, the following minimum requirements apply:

- ◆ Section 335.4 (General Prohibitions); and
- ◆ Section 335.6 (Notification Requirements).

Such Class 2 industrial wastes can be disposed of at Type I municipal solid waste landfills with prior authorization from the Technical Assistance Team of the Municipal Solid Waste Division, 512/239-6781.

Nonhazardous industrial wastes containing less than 50 ppm PCBs may be disposed of in one of the following disposal facilities:

- ◆ Texas Ecologists, Robstown, Nueces County
- ◆ Rollins, Deer Park, Harris County
- ◆ Chem Waste Management, Port Arthur, Jefferson County
- ◆ BFI Gulfwestern, Anahuac, Chambers County
- ◆ Western Waste, Conroe, Montgomery County
- ◆ Laidlaw Environmental Response, Altair, Colorado County
- ◆ CSC/Republic Waste, Ellis County
- ◆ BFI Waste Disposal Center, Sinton, San Patricio County.

**Assigning Waste Codes to Hazardous Wastes and Industrial Wastes That Contain PCBs.** Before any hazardous waste or industrial waste containing PCBs can be disposed of, it must be assigned an eight-character waste code number that consists of (1) a four-character sequence number, (2) a three-character form code, and (3) a one-character classification code.

**Sequence Number .** The first four characters of a waste code for a hazardous or industrial waste are the sequence number. In-state generators of hazardous waste or industrial waste who are adding to their Notice of Registration (NOR) a waste code number for a PCB waste should assign a unique sequence number between 0001 and 9999 to their waste. ( *Note:* It is not necessary that such numbers be assigned in sequential order).

Generators requesting disposal of PCBs or PCB-containing materials through the One-Time Shipment Program will be assigned a sequence number or an alphanumeric combination by the TNRCC.

Generators of spill-related waste may obtain a sequence number for it from the TNRCC's Emergency Response Section.

Out-of-state generators will use the sequence code "OUTS" in the first four digits of the waste code.

**Form Code .** The next three characters of a hazardous or industrial waste code are the form code. Table 1 contains some possible form codes that may apply in certain instances. This listing may not represent all possible applicable form codes; for a complete listing, please refer to 30 TAC Chapter 335, Subchapter R, Appendix 3.

**Classification Code .** The last character of a hazardous or industrial waste code is a one-character classification code that indicates whether the waste is hazardous (H) Class 1, 2, or 3.

Again, the final waste code is composed of (1) the four-character sequence number, (2) the three-character form code, and (3) the one-character classification code assembled in that order (i.e., sequence number + form code + classification code = waste code). An example of such a waste code for a Class 1 PCB waste is 00996991.

The TNRCC has put together a guidance document on the classification and coding of industrial waste. This workbook can be obtained by calling the Public Information and Publications Division of the TNRCC at (512) 239-0028 and requesting RG-22, "Guidelines for the Classification and Coding of Industrial and Hazardous Wastes." The first requested copy is free of charge, and additional copies are \$3.25 each.

**Special Waste Regulations.** The Technical Assistance Team of the Municipal Solid Waste Division oversees the disposal of all nonhazardous PCB-containing wastes in municipal solid waste landfills. PCB-containing waste going to such landfills is referred to as "special waste." All requests to dispose of special waste in municipal solid waste landfills are reviewed on an individual basis by the Technical Assistance Team.

Special waste is defined in 30 TAC 330.2 as follows:

Any solid waste or combination of solid wastes that because of its quantity, concentrations, physical or chemical characteristics, or biological properties requires special handling and disposal to protect human health or the environment. If improperly handled, transported, stored, processed or disposed of, or otherwise managed, it may pose a present or potential danger to human health or the environment.

Common types of special waste are

- ◆ small light ballasts and
- ◆ small electrical capacitors.

Such ballasts and capacitors are considered as special waste when they (1) contain PCB compounds (or are not labeled at all regarding their PCB content); and (2) weigh less than three pounds; and (3) are not hazardous wastes. ( *Note:* Ballasts and capacitors that are clearly marked "non-PCB" are not considered special wastes unless they come from an industrial source or from a source located outside Texas.)

The TNRCC is concerned about disposal in municipal solid waste landfills of large quantities of such ballasts and capacitors (e.g., the quantity that would be generated by the renovation of a commercial building, a school, or other facility). Therefore, the agency will not authorize the disposal of large quantities of such wastes in a municipal solid waste landfill.

However, the special waste regulations allow such ballasts and capacitors that are generated during routine maintenance and are not leaking to be disposed of in Type I municipal solid waste landfills, provided that the total weight of such wastes does not **exceed three pounds** of ballasts per day. ( *Note:* Although the TNRCC allows disposal of such waste in Type I landfills, the agency strongly recommends that all PCB wastes, regardless of weight or quantity, be recycled or sent to a facility approved by the EPA for the disposal of PCB wastes).

**Table 1. Examples of Some Possible Form Codes**

<b>Form Code</b>	<b>Waste Description</b>
<b>Organic Liquids</b>	
297	Nonhazardous liquids containing greater than or equal to ( $\geq$ ) 50 and less than ( $<$ ) 500 ppm PCBs
298	Nonhazardous liquids containing greater than or equal to ( $\geq$ ) 500 ppm PCBs
<b>Inorganic Solids</b>	
394	Nonhazardous solids containing greater than or equal to ( $\geq$ ) 50 ppm and less than ( $<$ ) 500 ppm PCBs
395	Nonhazardous solids containing greater than or equal to ( $\geq$ ) 500 ppm PCBs
396	Nonhazardous electrical equipment/devices containing greater than or equal to ( $\geq$ ) 50 ppm and less than ( $<$ ) 500 ppm PCBs.
397	Nonhazardous electrical equipment/devices containing greater than or equal to ( $\geq$ ) 500 ppm PCBs
398	Nonhazardous soils containing greater than or equal to ( $\geq$ ) 50 ppm and less than ( $<$ ) 500 ppm PCBs
399	Nonhazardous soils containing greater than or equal to ( $\geq$ ) 500 ppm PCBs
<b>Organic Solids</b>	
494	Solids containing greater than or equal to ( $\geq$ ) 50 ppm and less than ( $<$ ) 500 ppm PCBs
495	Solids containing greater than or equal to ( $\geq$ ) 500 ppm PCBs
496	Electrical equipment/devices containing greater than or equal to ( $\geq$ ) 50 ppm and less than ( $<$ ) 500 ppm PCBs.
497	Electrical equipment/devices containing greater than or equal to ( $\geq$ ) 500 ppm PCBs
498	Soils containing greater than or equal to ( $\geq$ ) 50 ppm and less than ( $<$ ) 500 ppm PCBs
499	Soils containing greater than or equal to ( $\geq$ ) 500 ppm PCBs
<b>Inorganic Sludges</b>	
598	Nonhazardous sludges containing greater than or equal to ( $\geq$ ) 50 ppm and less than ( $<$ ) 500 ppm PCBs
599	Nonhazardous sludges containing greater than or equal to ( $\geq$ ) 500 ppm PCBs
<b>Organic Sludges</b>	
698	Nonhazardous sludges containing greater than or equal to ( $\geq$ ) 50 ppm and less than ( $<$ ) 500 ppm PCBs
699	Nonhazardous sludges containing greater than or equal to ( $\geq$ ) 500 ppm PCBs

A copy of the TNRCC form “Request for Authorization for Disposal of a Special Waste” can be found in Appendix II. Contact the Technical Assistance Team at (512) 239-6781.

***Recycling PCB Wastes.*** The TNRCC considers landfilling to be the least desirable method of management of PCB wastes and therefore encourages the recycling of such wastes whenever possible. Although PCBs themselves cannot be recycled (i.e., used, reused, or reclaimed), the non-PCB components of PCB wastes (e.g., the metal portions of light ballasts) can often be recycled.

The regulations applying to hazardous or industrial wastes (including PCB wastes) that are recycled can be found in 30 TAC Section 335.24 (Requirements for Recyclable Materials and Nonhazardous Recyclable Materials). The following is a summary of the recycling regulations that apply to hazardous wastes and industrial wastes, including PCB wastes that are recycled:

- ◆ Section 335.24(g) outlines the requirements that apply to hazardous wastes (including PCB wastes that are hazardous wastes). Section 335.24(g) subjects such wastes to the requirements of Section 335.4 (General Prohibitions), Section 335.6 (Notification Requirements) and Sections 335.9–15 (Relating to Recordkeeping, Reporting, and Shipping Requirements).
- ◆ Section 335.24(h) outlines the requirements that apply to nonhazardous industrial wastes that are recycled. Section 335.24(h) subjects such wastes (as well as a few types of hazardous wastes) to the requirements of Sections 335.4 (General Prohibitions) and 335.6 (Notification Requirements).

## **For More Information**

Questions about state regulations applying to

- ◆ PCB wastes that are hazardous or come from industrial sites should be directed to the Waste Analysis Team of the Industrial and Hazardous Waste Division at (512) 239-6832.
- ◆ PCB wastes that are special wastes should be directed to the Technical Assistance Team of the Municipal Solid Waste Division at (512) 239-6781.

**APPENDIX I**  
**PCB DISPOSAL COMPANIES**  
**COMMERCIALLY PERMITTED**

*\*Permitted to operate in all 10 EPA Regions*

<b>COMPANY NAME</b>	<b>ADDRESS</b>	<b>PHONE NO.</b>
<b>INCINERATOR</b>		
Aptus, Inc.	P.O. Box 1328 Coffeyville, KS 67337	312-251-6380
Aptus, Inc.	P.O. Box 27448 Salt Lake City, UT  1160 N. Aptus Road Aragonite, UT	801-521-9009
Chemical Waste Management	P.O. Box 2563 Port Arthur, TX 77643	409-736-2821
Rollins	P.O. Box 609 Deer Park, TX 77536	713-930-2300
Weston	One Weston Way West Chester, PA 19380	215-692-3030*
<b>ALTERNATE THERMAL</b>		
General Electric	100 Woodlawn Ave. Pittsfield, MA 01201	413-492-2700
<b>CHEMICAL</b>		
Aptus, Inc.	P.O. Box 1328 Coffeyville, KS 67337	316-251-6380
Chemical Waste Management	1550 Balmer Road Model City, NY 14017	716-754-8231
ENSR Operations	1700 Gateway Blvd., S.E. 216-452-0837* Canton, OH 44707	
Exceltech, Inc. (ENSCO Subsidiary)	41638 Christy Street Fremont, CA 94538	415-659-0404
General Electric	One River Road Schenectady, NY 12345	518-385-2426*
PPM, Inc. (USPCI Subsidiary)	1875 Forge Street Tucker, GA 30084	404-934-0902*
Transformer Consultants (Div of S.D. Myers, Inc.)	P.O. Box 4724 Akron, OH 44310	800-444-9580*

<b>COMPANY NAME</b>	<b>ADDRESS</b>	<b>PHONE NO.</b>
Trinity Chemical Co. Inc.	6405 Metcalf, Cloverleaf 3 Suite 313 Shawnee Mission, KS 66202	913-831-2290

#### **PHYSICAL SEPARATION**

Aptus, Inc.	P.O. Box 1328 Coffeyville, KS	316-251-6380
CECOS International Process Center	4879 Spring Grove Ave Cincinnati, OH 45232	513-681-5738
General Electric	One River Road Schenectady, NY 12345	518-385-2426*
Quadrex HPS, Inc.	1940 N.W. 67th Place Gainesville, FL 32606	904-373-6066*
S. D. Myers, Inc.	180 South Ave. Tallmadge, OH	800-444-9580
Unison Transformer Services, Inc.	5801 Riverport Road Henderson, KY 43420	502-827-0541

#### **PIPELINE REMOVAL**

Alguonguin Gas Transmission Co.	1284 Soldiers Field Rd. Boston, MA 02135	617-254-4050*
Burlington Environmental	955 Powell Avenue SW Renton, WA 98055	206-227-0311*
CNG Transmission Corp.	445 West Main Street Clarksbury, WV 25325	304-623-8446
Columbia Gas Transmission Corp.	P.O. Box 1273 Charleston, WV 25325	304-359-2727*
Natural Gas Pipeline Co. of America	701 East 22nd Street Lombard, IL 60148	708-691-3808
Northern Natural Gas Co.	P.O. Box 2511 Omaha, NB 68103	515-226-2011
Tennessee Gas Pipeline Co. (TENNECO)	P.O. Box 2511 Houston, TX 77252	713-757-5667*
Texas Eastern Gas Pipeline Co.	P.O. Box 2521 Houston, TX 77252	713-759-5472*
Texas Gas Transmission Corp.	3800 Frederica Street Owensboro, KY 42302	502-926-8686



COMPANY NAME	ADDRESS	PHONE NO.
<b>PCB TRANSFORMER DECOMMISSIONING (Disassembly/Smelting)</b>		
Aptus, Inc.	P.O. Box 1328 Coffeyville, KS 67337	312-251-6380
Environmental International Elec. Services/Unison	3126 Brinkerhoff Rd. Kansas City, KS 66115	913-321-3155
Transformer Consultants (Div of S.D. Myers, Inc.)	180 South Ave. Tallmadge, OH 44278	800-444-9580
Unison	1302 West 38th St. Ashtabula, OH 44004	216-992-8665

#### **PIPELINE AND COMPRESSOR SYSTEMS DECONTAMINATION**

Burlington Environmental, Inc.	955 Powell Avenue SW Renton, WA 98055	206-227-0311
Quadrex Environmental Company	1940 N.W. 67th Place Gainesville, FL 32606	904-373-6066
Vector Group, Inc.	1118 Ferris Road Cincinnati, OH 45102	513-752-8988

#### **CHEMICAL WASTE LANDFILLS**

Chemical Waste Management	Alabama Inc. Box 55 Emelle, AL 35459	205-652-9721
Chemical Waste Management	Box 471 Kettleman City, CA 93239	209-386-9711
Chem-Security Systems Inc.	Star Route Box 9 Arlington, OR 98712	503-454-2643
CWM Chemical Services Control, Inc.	1550 Balmer Road Model City, NY 14107	716-754-8231
Envirosafe Services Inc. of Idaho	P.O. Box 16217 Boise, ID 83715	800-274-1516
U.S. Ecology, Inc. Control, Inc.	Box 578 8960N Hwy 40 Lake Point, UT 84074	702-553-2203

#### **BIOLOGICAL TREATMENT**

Detox Industries, Inc.	12919 Dairy Ashford Sugar Land, TX 77478	713-240-0892
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